

Docket No.: 1422-0519P
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Jun SAITO et al.

Application No.: 10/049,995

Confirmation No.: 4521

Filed: February 20, 2002

Art Unit: 1751

For: PROCESS FOR PREPARING HIGH-BULK
DENSITY DETERGENT COMPOSITIONS

Examiner: Boyer

REPLY BRIEF UNDER 37 C.F.R. § 41.41

MS Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellants submit herewith a Reply Brief. This Reply Brief responds to the Examiner's Answer dated January 15, 2008.

For clarity, the issues presented in the Appeal Brief filed November 14, 2007 will be repeated.

I. Grounds of Rejection to be Reviewed on Appeal

The following Final Rejections are to be reviewed on appeal:

(1) Claims 1-7, 9-13 and 15-19 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over **Nitta et al.** (EP 936,269).

(2) Claims 1-7, 9-13 and 15-19 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over **Mort, III et al.** (U.S. Patent No. 6,794,354).

The Final Rejection under 35 U.S.C. § 112, paragraph 2, is stated by the Examiner to be overcome by the Amendment under 37 C.F.R. 1.116 filed June 21, 2007, entered for purposes of appeal.

II. Argument

A. Issues Presented for Appeal

The issues presented for appeal are the following:

(1) Has a *prima facie* case of obviousness of claims 1-7, 9-13 and 15-19 been presented in view of the disclosure of Nitta et al?

(2) Has a *prima facie* case of obviousness of claims 1-7, 9-13 and 15-19 been presented in view of the disclosure of Mort, III et al?

B. New Points of Argument Raised by the Examiner's Answer

Appellants are providing this Reply Brief to respond to new points of argument raised in the Examiner's Answer. At pages 3 to 4 of the Examiner's Answer, the Examiner repeats the rejection over Nitta et al. using language virtually identical to the rejection set forth at pages 3 to 4 of the Final Office Action of March 23, 2007. At pages 4 to 5 of the Examiner's Answer, the Examiner maintains the rejection over Mort, III et al. by repeating the grounds for rejection set forth at pages 5 to 6 of the Final Office Action of March 23, 2007.

At pages 5 to 9 of the Examiner's Answer, the Examiner responds to the arguments in the Appeal Brief.

1. The Examiner Fails to Present a Prima Facie Case of Obviousness

Neither the cited Nitta et al. nor the Mort, III et al. references teach or suggest appellants' invention on appeal. As a result, no *prima facie* case of obviousness is established as to claims 1-7, 9-13 and 15-19 on appeal.

In responding to Appellant's arguments that the references fail to teach or suggest all of the claim elements (i.e., the precise timing of the addition of an "inorganic powder" or an "alkali metal aluminosilicate" in steps (B) and (b) as claimed), the Examiner asserts that all detergent agglomerates are formed in essentially the same way, that is, some powder and liquid binder are added to a mixer, and upon mixing, the powder sticks to itself and forms larger and larger particles until the particles reach the desired size of the formulator.

As the Examiner emphasizes on page 6 of the Examiner's Answer, Nitta et al. teach that aluminosilicates may be added after the neutralization step. The Examiner then asserts that this satisfies the claim limitations. However, independent claims 1 and 10 explicitly recite, *inter alia*,

the step of “beginning step (B) after a point of initiating formation of coarse grains in the neutralization mixture obtained during the course of neutralizing the liquid acid precursor.” Claim 1 then continues with step (B) of “adding an inorganic powder and a liquid binder to the neutralization mixture obtained in step (A)”, and claim 10 continues with step (b) of “adding an alkali metal aluminosilicate and a liquid binder to the neutralization mixture obtained in step (a).” In other words, appellants use an alkali aluminosilicate to prevent formation of coarse grains in a neutralization mixture *during* the neutralization step rather than during a surface modification step *after* neutralization.

More specifically, in Nitta et al., a zeolite is added in a surface-modifying step, *where the formation of coarse grains no longer proceeds*. At the point the zeolite is added, the neutralization has already been completed and the formation of coarse grains no longer proceeds. Likewise, the comparative data set forth for Comparative Examples 11-17 in Table 6 of Nitta et al. shows that no zeolite is used in the neutralization process.

Thus, the invention of Nitta et al. and the instant invention are different in that a zeolite is added after the neutralization step in Example 1 of Nitta et al., whereas in the present invention, a zeolite is added after a point of initiation of formation of coarse grains in the neutralization mixture obtained *during* the course of a neutralization process in step (A).

The Examiner further asserts that both references contain a neutralizing step identical to step A of the present invention and that the result of such a neutralization step will necessarily be the formation of appellant’s “coarse grains.” The Examiner disagrees that the “after a point of initiating formation of coarse grains” limitation represents a critical timing.

As discussed above and shown in Examples 1 and 2 of the instant invention, the timing of the addition of the alkali aluminosilicate is an important limitation in that an alkali metal aluminosilicate added during neutralization provides superior results over an alkali metal aluminosilicate added after neutralization, as in the cited prior art. The Examiner asserts that there is no difference between the neutralization step of the prior art and the “formation of coarse grains” as claimed. However, this point is irrelevant in light of the fact that an alkali aluminosilicate is added at completely different times when comparing the present invention with the cited prior art.

At page 9 of the Examiner’s Answer, the Examiner alleges that Appellants have not provided any evidence of unexpected results when their detergent granules are compared to the detergent granules of the prior art. Appellants strongly disagree. In the Appeal Brief, Appellants noted that Comparative Examples 18-19 of Nitta et al. utilize approximately the same process of manufacture and formulation as Comparative Example 1 of the present invention (see page 33, line 21 – page 35, line 13 and Table 2 of the instant specification). When comparing the present invention with Comparative Example 1, a notably poorer detergency was found for Comparative Example 1 (page 35, lines 7-9).

Furthermore, Appellants assert that the present invention suppresses granular growth in order to obtain a high-bulk density detergent composition that possesses a smaller average particle size than the prior art. The smaller average particle size is clear evidence of unexpected and advantageous results. This evidence can be seen by comparing Table 5 of the present invention with Table 3 of Nitta et al., which are reproduced below:

Table 5

	Example No.				Comp. Ex. No.
	6	7	8	9	2
► Final Average Particle Size (μm)	460	457	474	450	547
► Average Particle Size (μm) Immediately After Acid Addition	465	458	460	453	440
Bulk Density (g/L)	753	756	764	755	783
Flowability (sec)	6.5	6.5	6.5	6.4	6.7
Ratio of Relative Detergency	0.997	0.988	0.996	0.996	0.997

Table 3

	Examples						
	1	2	3	4	5	6	7
Average Particle Size (μm) of STPP	11.2	11.2	11.2	11.2	-	-	58.4
Average Particle Size (μm) of LIGHT ASH	56.1	56.1	56.1	56.1	56.1	56.1	56.1
Highest Powder Temp. (°C)	75	77	80	83	81	81	79
► Average Particle Size (μm)	633	517	496	703	604	536	532
Yield (Percentage of 1400 μm-pass Particles) (%)	75.3	82.6	83.8	70.0	81.0	83.9	82.3
Bulk Density (g/L)	760	730	717	694	707	737	760
Free Flowability (sec)	6.2	6.3	6.2	6.5	6.5	6.3	6.3
Hue (L value)	92.4	91.4	91.5	91.0	91.1	90.2	90.8

As can be seen, the present invention has an average particle size of 453-465 μm immediately after acid addition and a final average particle size of 450-474 μm. In stark contrast, the composition of Nitta et al. has a much larger average particle size of 496 -703 μm.

Thus, contrary to the Examiner's contention, Appellants have provided evidence of unexpected results. *Rebuttal evidence* and arguments *can be presented in the specification* or by way of an affidavit or declaration. *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995) (emphasis added). Office personnel should consider *all* rebuttal arguments and evidence presented by applicants. *Id* (emphasis added).

The Examiner's final contention is with further respect to the timing. Specifically, the Examiner alleges that appellants have not given any guidance as to when this perfect moment of coarse grain formation might take place. Once again, the Examiner states that there is no distinction between coarse grain formation and a normal neutralization process as taught in the prior art.

As discussed above, the essential limitation of independent claims 1 and 10 does not rest on this distinction. Rather, the prior art teaches the addition of zeolite *after the normal neutralization process as taught in the prior art*. The limitation of claims 1 and 10 requires the addition of an alkali metal aluminosilicate *during the neutralization step*. On page 9 of the Examiner's Answer, the Examiner also makes this distinction by stating that "the references above teach the addition of zeolites *after neutralization*" (emphasis added).

With respect to guidance as to when the coarse grain formation might take place, the present specification provides substantial explanation as to this timing. Specifically, the specification at page 14, lines 4-16 and page 16, line 6 to page 17, line 6 gives guidance as to the point of initiating formation of coarse grains in the neutralization mixture.

Because the cited art of Nitta et al. and Mort, III et al., do *not* provide any teaching which would motivate one of ordinary skill in the art to arrive at the invention as claimed in claims 1 and 10, it follows that neither reference is capable of supporting an obviousness rejection of any of the claims on appeal. This conclusion is buttressed or supported by the unexpected and advantageous properties that are possessed by the high-density detergents (*e.g., Example 1 in the instant specification*) that can be produced with the instant inventive processes.

In view of the above, the Examiner fails to present a *prima facie* case of obviousness.


III. Conclusion

The Final Rejection of claims 1-7, 9-13 and 15-19 is improper as the Examiner fails to present a *prima facie* case of obviousness as to either the Nitta et al. or Mort, III et al. references.

The Final Rejection should accordingly be reversed by the Honorable Board.

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Respectfully submitted,

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